

ESSAY ON CLASSIFICATION.

CHAPTER FIRST.

THE FUNDAMENTAL RELATIONS OF ANIMALS TO ONE ANOTHER AND TO THE WORLD IN WHICH THEY LIVE, AS THE BASIS OF THE NATURAL SYSTEM OF ANIMALS.

SECTION I.

THE LEADING FEATURES OF A NATURAL ZOÖLOGICAL SYSTEM ARE ALL FOUNDED IN NATURE.

MODERN classifications of animals and plants are based upon the peculiarities of their structure; and this is generally considered as the most important, if not the only safe, guide in our attempts to determine the natural relations which exist between animals. This view of the subject seems to me, however, to circumscribe the foundation of a natural system of Zoölogy and Botany within too narrow limits, to exclude from our consideration some of the most striking characteristics of the two organic kingdoms of nature, and to leave it doubtful how far the arrangement thus obtained is founded in reality, and how far it is merely the expression of our estimate of these structural differences. It has appeared to me appropriate, therefore, to present here a short exposition of the leading features of the animal kingdom, as an introduction to the embryology of the Chelonians,—one of the most extraordinary types among Vertebrata,—as it would afford a desirable opportunity of establishing a standard of comparison between the changes animals undergo during their growth, and the permanent characters of full-grown individuals of other types, and, perhaps, of showing also what other points beside structure might with advantage be consid-